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## Contributed Articles.

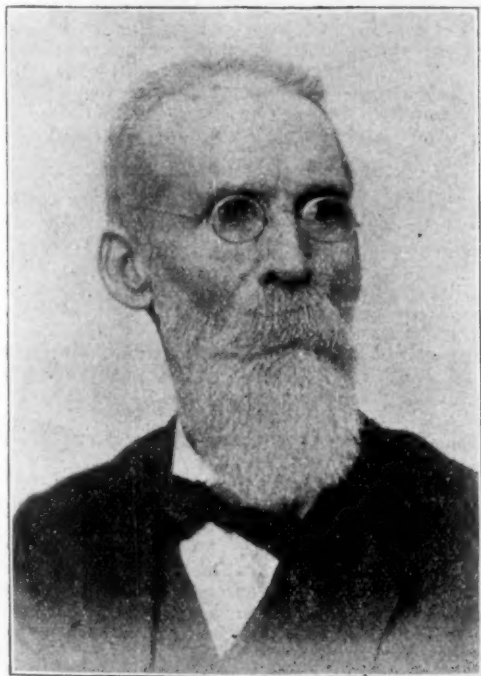
On Important Apian Subjects.

### Combined Feeder—Its Construction and Use.

BY J. A. GOLDEN.

There has been a great deal said through the bee-papers, during the past year, in regard to the percolator feeder, and while, this plan of feeding may have its advocates, I send you a photograph of Flody feeding her bees with one of my combined feeders, which you will see leaning against the front of the hive, and is so constructed as to be used for a brood-frame cover, doing away with the oil-cloth or burlap, and is always ready to feed for winter stores, or stimulating, feeding back extracted honey to finish sections at the closing of the season, or sugar in any form, and the beauty of it all is, one can feed a large number of colonies in a few minutes.

Flody's plan is to lift off the hive cover, raise one end of the cushion, and pour the feed through the wire-cloth that



Mr. J. A. Golden—See page 220.

This (1894) being the second year that I have used them on all of my hives, gives me an experience from which I am persuaded that there is not one bee-keeper in a thousand that would use any other after trying one of these. They are of



Miss Flody Feeding Her Bees.

simple construction, and could be manufactured very cheaply. I find that I can feed twice the amount of feed with this feeder than I can with any other feeder in the same length of time; besides, it is the best winter cover and ventilator I ever saw or used; and for spring stimulating it is very valuable, never having to disturb the cluster, nor causing cold drafts of air to chill the brood. I hope that every bee-keeper in the land will make and try one. I will give the plan of construction: First, the board K is cut to fit the inside measure of the hive, and is of  $\frac{3}{4}$  lumber, with a  $\frac{1}{2}$  strip nailed around the under edge for bee-space over the brood-frames. Then cut a  $\frac{1}{2}$  slot across one end, like at E, 6 inches long, just inside the end board, which is  $2\frac{1}{2}$  inches wide and  $\frac{1}{2}$  thick. The ends are mitered, and nailed near each end of the board K. Side strips to correspond are nailed close to the edge of the board K, and to the end boards; nail from the underside of board K. The edges should be dressed bevel to make the top true. Cut a strip of wire-cloth to fit the top of the inclosure; take strips like the old comb-guide, lay one under and one on top around the edge, and with  $\frac{1}{4}$  inch wire tacks nail and clinch all around, which makes quite a good frame. Then with two small leather hinges attach to one of the end-boards this

covers the feeder. No bees can get out, no robbers get in. Push down the cushion, put on the cover, and off to the next. Thus, by looking at the photograph, it will fully explain this combination of feeder and hive-cover.

frame. The screen is L in the cut. A little board is laid over the bee-entrance when not feeding.

To make the feeder take  $\frac{3}{4}$ -inch board as large as desired for the bottom strips, and  $\frac{3}{4}$  inch by  $1\frac{1}{2}$  wide. Saw kerfs in each end piece, joint together, and nail the bottom-board to this rim. Apply a coat of cobalt, which is dissolved in alcohol, and it will never leak. Cut some strips of wood separate, and slip in the saw kerfs. See M in the cut. In fact, the photograph explains the entire combination.

After feeding is completed, take out the feeder, close the bee-entrance, fill the enclosure with bits of old carpet, or a small chaff cushion, put on the large cushion and hive-cover, and your bees will never become damp, nor combs moldy.

After the honey-flow, if you have unfinished sections, set the feeder on top of the super, pour in extracted honey, and all your sections will soon be finished up in complete style. I invite all bee-keepers to try one of these feeders.

Reinersville, Ohio.



### Early Drones—Essays at Conventions.

BY DR. J. P. H. BROWN.

A correspondent asks how to get early drones. The colonies that are intended for drone-rearing should go into winter quarters with plenty of stores; at least with sufficient to carry them till they can gather abundantly from natural sources in the spring. Usually such colonies, unless unnecessarily tinkered with, have drones flying before those colonies that have to be fed up in the spring. But if there is not a surplus of food on hand in the hive, then it will be necessary to feed, and the feeding must be kept up regularly, until the bees can gather from natural sources. Regularity in this matter is all-important, and the quantity of food given should be proportioned to the amount they can consume, and a *trifle to store in combs for a rainy day*. Poverty affects bees as it does many humans—it "freezes the genial currents of the soul."

A frame or two of nice, clear drone-comb should be placed near the center of the brood-nest to receive the drone-eggs as soon as the bees get ready to care for the larvæ. You may place the comb right in the center of the brood-nest, but you will not find any drone-larvæ there till the colony is in a condition for drones. They do not care a fig how much you desire them, the workers will have their own way. Sometimes it is very difficult for us to understand bee-instincts. "The notions we form of their senses," observes John Hunter, who was one of the most learned of England's apiarists, "must not only be liable to great inaccuracy, but may often be totally inadequate representations of the truth."

Some colonies will rear drones much sooner than others, when all the conditions are apparently the same. The physical vigor of the queen has much to do in this matter. When ova-production of the queen wanes from old age or infirmity, the bees prepare for a successor in advance of the time the old one ceases to lay.

The queen-breeder should never lose sight of the importance of breeding his stock up. To *breed up*, requires skill, the greatest care, and "eternal vigilance." Drones only from the best, choicest, and best-working colonies should be selected. While first-class queen-mothers are indispensable, first-class males are equally so.

Drones from laying workers are defective in their procreating powers; so also are the drones from unimpregnated queens, if reared in worker-cells; but, if reared in drone-cells, they have the power of flight, vigor and capacity to fertilize the queen. But in queen-breeding, unfertilized queens cannot be depended upon for drones. All such drones should be carefully discarded. These conclusions have been arrived at by careful experiments and observations that I have conducted with unfecundated queens.

#### ESSAYS OR NO ESSAYS AT BEE-CONVENTIONS.

The question of essays or no essays at bee-conventions seems to have given rise to some discussion. In every organized convention, society, or association for the advancement of science, there must be some means instituted to draw out thought and to encourage discussion. There are usually two classes of persons who attend these meetings. One is composed of individuals who are gifted with the faculty of language sufficiently large to enable them to readily express their thoughts *extempore*. While the other class have their ideas pent up for the want of ready words to express them. The best thoughts, the most reliable judgment, and the best digested experience, are often found with this latter class. They take back seats, while the "darn-on talkiest" fellows come to the front and monopolize the time, even if they have to "grind out" "cases," "examples" and "instances" "on-

sight" to suit the occasion. The essay is the only means they have to make themselves heard.

An essay is supposed to be the embodiment of the thoughts and experience of the writer. Ideas go on the paper criticised and analyzed by the writer according to his faculty of perception. Thought is brought in contact with thought, and discussion is thereby drawn out.

It is to the interest of bee-keepers to organize, encourage and maintain the existence of societies devoted to the promotion of the bee-keeping industry. To say nothing of their social feature, their educational power is great. It has been my good fortune to attend a number of meetings of the North American Bee-Keepers' Association, and I always found that the interchange of thought compensated me for the time and expense incurred in making the journey.

Augusta, Ga.



### The California State Convention.

BY JOHN H. MARTIN.

The California State Bee-Keepers' Association met Feb. 5, in Los Angeles. The usual routine business occupied a good share of the morning session.

Mr. Flory, from Lemoore, Kings county, presented his credentials as a delegate from the Central California Bee-Keepers' Association, and was admitted to the rights and privileges of the meeting.

Mr. McIntyre described his fire-proof honey-house. It is 14x22 feet, and cost less than \$200. He could store 30 tons of honey, and could hold his honey over, or until he could secure better prices. He had no fears of his building and contents burning, and had no insurance rates to pay.

#### MARKETING THE HONEY CROP.

Capt. Wood sold the most of his honey in the home markets, and if he could not get his price, held it over until the next year. Dealers would offer 4 cents per pound, but he had always made money by holding it for better prices.

The commission men came in for a share of blame, but as a general thing commission men had come up to their agreements.

Mr. Brods, a dealer from Riverside, said it was not necessary to ship to commission men. He bought large quantities of honey every year, and made an agreement with the producer upon a settled price. Many producers have to sell their honey early; in such cases he advanced money and held the honey for several months, that better prices might be obtained. He keeps posted in relation to all Eastern markets, and all the profits he desired was the usual rate of half a cent per pound. He thought that bee-keepers could get a better price for their honey by allowing only one or two men to handle it.

Several committees were then appointed.

#### CO-OPERATION AMONG BEE-KEEPERS.

The afternoon session opened with an essay by Mr. Brodbeck, upon "Co-operation of Bee-Keepers." The discussion that followed was of deep interest to bee-keepers.

Mr. Mellen, secretary of the co-operative store in Acton, Calif., spoke of the success attending their organization. Co-operative associations are being formed in various portions of the country, and it is a move in the right direction. A co-operative association comes in contact with all other such organizations, and the more organizations the greater the power. How to co-operate is taught in a 50-cent book written by Herbert Myreck, and sold by W. A. Wayland, Tennessee City, Tenn. At present we are at the mercy of the capitalist, and co-operation is the way out.

Mr. Levering spoke in a discouraging strain in relation to the fact that bee-keepers would not work together, but he hoped that something would be accomplished.

Mr. Brodbeck said that plans were being perfected for the organization of a local association in Los Angeles. There would be a selling agent appointed, and the honey sold by samples. All members of the association would agree to grade their honey and send samples, and also agree to stand by the association.

Mr. Cory said that he had put up honey in small cans, labeled finely, and had obtained satisfactory prices, but after getting a market established the next season resulted in a total failure of the honey-yield, and not having the honey for his former customers, he lost his market for succeeding seasons.

Prof. Cook remarked that the bee-keepers and laboring men should hold together like the great corporations. Have patience and agitate. The fruit-men had organized, and were

getting better prices and new markets were opening up to them. Bee-keepers could do just as well if they would organize. The price of honey is usually put at too low a price at the first sales.

Dr. Millard believed in putting the best man forward, and let him act as selling agent. The one stumbling-block is the need of ready money, and some plan to pay an advance to those producers who are obliged to sell their honey to procure the necessities of living.

Mr. Touchton said that California had to compete with the whole United States and Cuba. He approved of the plan of putting up honey in small packages. Honey is put up by dealers even into half-pound packages. To get best prices, we must put it up in such packages as the public demands. Bee-keepers should put their own brand on their packages, and thus get up a reputation for it.

Mr. Wilder had been East, and after inquiring into the sale of honey, he found that but a very small amount was sold for table use. The greater portion of California extracted honey was used in manufacturing purposes, and it then came in competition with sugar—if the price of honey went above a certain figure, then honey was discarded and sugar took its place. To get better prices, the honey should be put up for table use, and sold direct to the consumer. Maple sugar and maple syrup was always in demand, because it was put up in popular packages. Capt. Wood thought that our honey should be put up in both large and small packages. Our honey could not all be sold for table use, and manufacturers wanted it in large cans.

Prof. Cook had dealt largely in maple products in Michigan, but during the years of failure he would lose his trade unless he supplied his customers from some other locality. This is where the co-operative plan would come in as an aid. In selling their products and packing it in their own association there would be a great saving. The Orange Exchanges saved about 28 cents per box in packing their oranges.

Mr. Flory, delegate from the Central California Association, said that they wanted co-operation. He said that there must something result from the agitation. In central California they had to contend with low prices, high freight rates on less than car lots, and an unjust tare upon all of their packages—upon a crate for comb honey weighing only 4 pounds they were obliged to allow a tare of 7 pounds—a clear steal of 3 pounds.

Upon a motion by Mr. Levering, 15 favored co-operation, and 6 opposed it, and several not voting. The 6 who opposed it had Exchanges of their own, and were able to get good prices by holding their honey over.

#### BEE-PARALYSIS CONSIDERED.

This was the next subject under consideration. Mr. Cory's remedy was a pinched queen's head. He also gave fresh brood, and distributed the brood from the affected hive into other colonies, and he saw no more of the disease. He had observed only four cases in his apiaries in 20 years.

Mr. McIntyre had only a few cases, and attributed it to shaded hives and moisture. The brood was chilled slightly, and weakened, resulting in trembling and death.

Mr. Mendleson had an apiary in a shady, moist place, and his colonies were more or less affected with the disease. He practiced Mr. Cory's plan, and cured his colonies.

Mr. Hambaugh did not agree with Mr. McIntyre in relation to dampness. Bee-paralysis, with him, was as troublesome in dry localities as in wet.

Capt. Wood never had a case of bee-paralysis in a hive of black bees. He believed these high-bred, fancy bees were the ones that suffered.

Mr. Flory had experience with the disease in the dry and hot country of central California, and had cured the stricken colony with sulphur.

Mr. McIntyre said that a great many would breed queens until they degenerated. It is easy to tell a queen-cell that will produce a poor queen. Cut a cell in two, and the pupa of a poor queen will have but little royal jelly, and it will have the bluish appearance of skimmilk by the side of a healthy one.

Mr. Touchton exhibited a two-story Langstroth hive fitted for extracting, and gave a lecture describing his method of management. He did not use extiders or bee-escapes. He showed the right and wrong way to shake bees from a comb—a short, sudden jerk was the most effective way. After the lecture, considerable friendly criticism was indulged in. His air-space in the cover was pronounced as impractical, but as an offset it was a remedy against the melting down of combs in the hot season. A large number of bee-keepers now discard quilts altogether, and use a flat cover.

At the close of the afternoon session, Mr. W. R. Arnold invited the bee-keepers to take dinner with him, and there was a royal gathering in the "Royal Restaurant." A vote of thanks was afterward given to Mr. Arnold for his generous treatment.

The evening session was well attended, and

#### Prof. Cook's Annual Address

was listened to with close attention, as follows:

*Ladies and Gentlemen:*—Last year I addressed you as one new to this region and its resources; and presented California apiculture as it appeared to my unprejudiced eyes. I am yet young among you, but I have now some observation and some knowledge of my own; and though my outlook has been upon one of the most discouraging seasons ever known to our region, yet I am more sanguine regarding the grand future of the bee-keeping industry of California, than I was one year ago. From a careful investigation of the records, I believe we can count on a honey harvest of unrivaled proportions for at least three years out of five; that we can safely reckon on a good profit two years out of three, and if our management be wise, we need never be under the necessity of feeding our bees. If the past year is a criterion, our bees can fly every month of the year, and gather honey even in the months of November, December, January, and February. Thus the problem of safe wintering is solved for us by our marvelous climate. Warm sunshine and nectar-laden bloom come with as much salubrity to the bees as to the people, and will prove—are proving—of signal service in giving to our favored region a reputation that must soon crowd our beautiful valleys with the best citizens of our country. Certainly, if we except Florida, no part of our country offers so much to entice the ambitious bee-keeper, as does our own sunny Southland of the Golden State.

I believe I have proved the past year, that bees are a *sine qua non* to successful fruit-culture; Southern California is ever to be the pomologist's paradise. As soon, then, as our pomologists know the real truth, they will court the presence of the apiarist. Already I find the fruit-growers ready to acknowledge that bees are a requisite to their best success. Thus California, more than any other State in our country needs, and must have, the bees. This fact will give added glory to our pursuit.

#### FOUL BROOD AND BEE-PARALYSIS.

The only two drawbacks to positive success on the part of the cautious and intelligent apiarist, as it seems to me, are the two diseases, "foul brood" and "bee-paralysis." These are no worse in California than elsewhere, and, as I believe, we have intelligence among our bee-keepers that is unsurpassed in any region of the world, we need feel no serious alarm or apprehension because of these diseases. Disease finds its greatest foes in culture and intelligence, and so these two microbe maladies must suffer a fitful and precarious existence among us.

The third disease—"new bee-disease"—that invaded our apiaries last season, destroying the brood, if it were not caused by insufficient honey to feed the brood, readily succumbed to feeding, and so need give us no uneasiness. We may then, brother bee-keepers, heartily felicitate each other in our location, no less than in our business.

We are also to be congratulated in the fact that we may know in advance what our prospects for the season are, and so plan that our cloth and garment shall harmonize. The present winter of abundant rains, insures a crop this coming season. We know that we shall have the nectar-secreting bloom, so that our supers will fairly bulge with the rich harvest of delicious honey. In the East, no one can prejudge the season, and so every bee-keeper must provide a full equipment of supplies, which he may not need for one, two, and in rare cases for even three years. Last winter we knew from the scant rainfall that no harvest was to be gathered. We therefore lessened our embarrassment by curtailing expenses, and reduced our loss to the minimum. We rejoice, then, that we are in the region of largest harvests, of fewest failures, and where failures give long notice of intended visits.

But there is one serious obstacle, but I hope not an irremedial one, to the best success in California apiculture. The profits are so large, the required attention so slight, the necessary capital and risks so insignificant, that many people with little knowledge and no enthusiasm, secure bees, locate them in some region of sage or other bloom, and give them no attention, except for a brief season just in the time of the honey harvest. In many cases, as I positively know, the bees are not even visited for months, and in case of a drouth like that of last season, over a year passes by without a single

examination being made. Of course such neglect breeds danger. Foul brood may run riot, as it frequently does, and so the entire bee-industry of the regions become imperiled. Is this right or just? Is not any bee-keeper rightly denominated a nuisance who gives his bees no care or attention except for a few days each season? I know of apiaries rotten with foul brood that were left with no care or examination all last season—just the season for robbing and the spread of the malady. One owner sent a person of no bee-knowledge or experience to equalize stores in the autumn. Combs nearly empty of honey were removed and set down outside the hive. I examined some of these combs, and found them reeking with foul brood. A most desirable reformation, then, in our California apiculture, as I believe, is that those unqualified and indifferent bee-keepers be weeded out of the brotherhood, and that every apiary shall have a bee-master, as they call them in Europe, who shall be constantly in communication with his myriad of servants. Doubtless this is beyond the pale of legislation, but I sincerely wish that we had some law, moral or civil, that would require every apiarist to live at or near his bee-yard, and that he should give to his bees such frequent attention that freedom from disease would be insured, and the apiary prevented from becoming a seed-bed for developing and distributing fungoid maladies. Is it possible under the present "Foul Brood Act" to effect something in this direction?

**THE "NEW BEE-DISEASE."**—The malady which appeared among us last season, which affects the brood certainly, and the mature bees possibly, surely succumbs at once to feeding. From my observation I was led to ascribe this disease to lack of food. I thought it starvation. I found it only in colonies with almost no honey. It disappeared at once, upon feeding. I fed honey medicated in several ways, but found that honey alone or sugar syrup were just as effective to banish the malady. That bees with very little honey should neglect, perforce, to properly feed the brood, so that the latter should die from starvation, seems not improbable. That the imago bees might die prematurely because they were insufficiently fed, while in the imago state, is likewise a reasonable supposition. Enough food might be given them to develop maturity, though not enough to insure health and strength. We know that bees, when there is no nectar afield, work with less of vigor. And so might it not be barely possible, in rare cases, even though the bees had honey, they would feed so sparingly and with such lack of courage and ambition, that the same result would occur? I saw no such case, but think such an event might possibly occur, as the result of long-enforced idleness in the hive.

Unfortunately the editor of one of the bee-papers referred to my article on the "new bee-disease" as pertaining to "bee-paralysis." And so, many writers have attempted to set me right. Of course, any intelligent reading of my first article would have set these writers right. "Bee-paralysis" shows its terrors in the mortality of the old bees. This new bee-disease is most apparent, if not exclusively manifest, in the larvæ or brood. In some few hives which I observed, there were also numerous dead bees in front of the entrance, such as are observed in "bee-paralysis." I wondered then—I wonder still—if these bees did not die of the effects of stunted nourishment, while developing in the brood-cells. I feel very certain that this "new bee-disease" is no menace to our future prosperity as bee-keepers. Henceforth we will leave enough honey in each hive, every Autumn, to bridge over seasons of drought and no nectar secretion. If we are thus wise I have no fear of a reappearance of the "new bee-disease."

**HONEY EUCALYPTUS.**—I was pleased in November and December to find that the bees were collecting considerable honey. This has gone on even to date. Upon examination, I find that the source of this honey is *Eucalyptus longifolia*. This tree is much clearer than the common blue gum, *Eucalyptus globulus*; is beautiful in foliage and form, and has a smooth bark, and from its showy blossoms which last all winter, is an exceedingly desirable tree for roadside planting. But it is also a very fine honey-plant. I am sure that we may all wisely urge the planting of this eucalyptus. It may well become the "California linden." Aside from its quality as a honey-tree, it is also one of the most desirable of the gum-trees, because of its grace and beauty.

I have also heard that another species of gum, which blossoms in June and July, is a serious apicide. If any present know ought of this species, I shall be glad to hear from them.

**POLLINATION.**—As I have given already three addresses on this important topic, all of which have been published, I will give you only a brief summary of the results of the investigations. I proved by covering the blossoms with paper bags, that Bartlett pears, Kelsey and another variety of plum, and unknown variety of cherry are all entirely sterile to their own

pollen, or pollen from the same variety although from another tree; that olives and lemons are only partially fruitful unless cross-pollinated; while to my surprise, navel oranges and royal apricots were entirely responsive to self-pollination. Thus we see that successful pomology must have the honey-bee. Failure must attend the cultivation of many of our most valued fruits, unless cross-pollination is secured. While other insects than bees may aid in such cross-pollination, yet the honey-bee is absolutely essential to the highest success, as it alone can be counted on in every season and always. If bees are close at hand they are a sure dependence. The highest success in pomology demands the mixing of varieties, and the near presence of bees. How well is the eternal fitness of things exemplified in the fact that this region is like the paradise of the bee-keeper and the pomologist. It is to be a great center of honey-production, and will show one of the greatest orchards of the world. And the beneficent work of reciprocity will be demonstrated in that each of these important industries is to confer a gracious blessing on the other.

**BEES AND FRUIT-DRYING.**—In my talks at the meetings of fruit-growers, I always receive respectful attention, and no one calls the conclusions in question. In most cases, however, I am asked if there is no remedy for the evil of the attack of bees upon drying fruit. I answer that if such bees were exclusively from colonies owned by bee-keepers, the owners could be requested to move them away, during the comparatively brief season of fruit-drying. For one, I should not hesitate to do this without being asked. Peace and good-will among neighbors is worth too much to be jeopardized, when so little effort would remove the annoyance. But so many unowned bees find homes in the walls of buildings, that very likely such action would not greatly mitigate the disturbance. Can we then suggest covers for the fruit-trays, that will secure against attack and all annoyance? If, as some assert, cheap covers of cheese-cloth will more than pay in hastening the evaporation, then surely such covers should be provided.

**LEGISLATION.**—A year ago a committee on Legislation was appointed, but, like Othello, such committee was occupation-less, as there has been no legislature in session, and congress has been utterly oblivious to such needs of the people. The legislature is now in session, and action is opportune. The spirit of reform which seems alive in the legislature, and which we may all devoutly hope is not all talk, casts doubt on our ability to secure any appropriation. Indeed, I am not sure that we are wise in requesting any such action.

Every bee-keeper should take the American Bee Journal—our only weekly publication. And all that is valuable in our proceedings should appear in its columns. This adds to the value of the Bee Journal, saves expense, and gives us a large audience. What other need have we for public money? Are not taxes already quite too high? Should we do ought to increase burdens of the great public?

**ACT TO PREVENT ADULTERATION.**—But we do need a good, strong adulteration law. This will cost no money, is needed by other industries, and is loudly called for by the public health. This law should be of easy enforcement, and should make it a very grievous offense to sell any article for what it is not correctly labeled. Butter should mean butter, maple syrup nothing else, and honey should be the product of the bees. It is not only right for us to ask for such an act, but all the people should unite in demanding it, and then see that it is enforced. What action shall we take to secure legislation that will banish this horrid work of fraud and deception that is robbing us of both money and health?

The excellent prospect of a great honey harvest the coming season, must bring to all of us joy and cheer. I hope that this spirit may not only give tone to our meeting, but will follow us all to our homes, and bless us exceedingly throughout the entire year.

Claremont, Calif, Jan. 20.

A. J. Cook.

The various points alluded to by Pres. Cook were then discussed. The new bee-disease, so-called, Mr. Levering thought was not due to starvation—it was something in the nature of la grippe, not local, but general in its effects.

Upon the subject of bees and fruit-drying, Mr. Mendleson said that he had paid \$125 damages in one case, and \$10 in another, where his bees destroyed drying fruit.

The question as to who should move, the bee-keeper or the fruit man, Mr. Touchton thought, inasmuch as the fruit-producer was indebted to the bee for his fruit crop that he ought to move.

In relation to city ordinances referred to, Mr. Woodbury said that ordinances against producers selling their own fruits, honey, etc., are unconstitutional, and cannot be enforced.

An essay on "California Bee-Keeping," was read by the Secretary.

At the Wednesday morning session Mr. A. B. Mellen presented an interesting essay upon the subject of "Honey vs. Money." This called forth some discussion in the line of co-operation.

Mr. Mendleson then favored the association with his essay upon the "The Use and Abuse of Smoke in the Management of Bees." Little smoke, gentle handling, clean hives, were the texts followed. Rough and rapid work with bees, and much smoke always resulted in cross bees. Mr. Taylor had bees so cross that they could not be cured with any of the foregoing methods, Prof. Cook said. He could manage cross bees the best under a tent.

At this stage of the meeting Dr. Gallup, of Santa Ana, arrived, and was given a warm welcome by the bee-keepers. He was made an honorary member. Hon. Mr. Hambaugh, of Illinois, and Mr. Alphaugh, of Canada, were also in attendance, and were made honorary members of the association.

#### FEEDING BEES.

The subject of feeding bees received a general discussion. Mr. McIntyre could usually tell when a colony needed feeding by observing if there were young, immature bees in front of the hive. He fed mostly in jars inverted on the hive. To prevent robbing, put a robber trap in front of the hive. After a large number of robbers had been confined for several hours, they were glad to get home and stay there. Dry years were the most profitable to him, for he not only obtained a good price for his previous year's honey, but kept his bees in such condition that when the good year did come he obtained a large yield.

Mr. Cory, after 20 years' experience in feeding, was more successful when he fed diluted honey. He had fed several hundred pounds to a single colony in order to get reserve combs for future use.

Capt. Wood fed by pouring honey on a barley sack laid over the frames, and found it a good way.

Dr. Gallup thought bees would get daubed, but if the honey or feed was diluted there would be no danger to the bees, if fed in warm weather.

Mr. Alphaugh said that if they fed honey in Canada it would granulate in the comb, unless it was mixed with syrup, or if the honey was scalded it would not granulate.

Mr. McIntyre said that sage honey will not granulate in three or four years—that is the difference between Canada and California honey.

Capt. Wood exhibited an old weather-beaten hive, and his method of management. He preferred an old-style Root Simplicity smoker, but improved by Wood. His honey-knife was also made with considerable metal in it, in order to hold heat. He kept the knife hot while uncapping, by inserting it in a peculiarly constructed copper boiler. He also used a very ingenious scraper, something like an intensified putty-knife.

The majority of the bee-keepers present preferred the Langstroth hive and the Bingham knife.

The question-box was opened, and the question, "What is the general average production of honey in California?" was read. Mr. McIntyre said that apiaries under good management would average 75 pounds per colony.

At the afternoon session the association proceeded to the election of officers. Prof. Cook was the unanimous choice for re-election for President, John H. Martin was re-elected Secretary, and H. E. Wilder was elected Treasurer; Dr. Millard and M. H. Mendleson as Executive Committee. Geo. W. Brodbeck, Vice-President for Los Angeles county; J. F. Flory, for Kings; B. S. Taylor, for Riverside; J. A. McKinney, for San Bernardino; R. Touchton, for Ventura; Dr. E. Gallup, for Orange; and G. S. Stubblefield, for San Diego county.

The reports of committees were then received. The Secretary was voted \$25 for his services. Mr. Levering presented an appeal to the association, asking that bee-keepers put the product of one colony of bees during the coming season for the benefit of Rev. L. L. Langstroth, and to be applied to the "Langstroth Fund." Upon motion of Mr. Cory, it was resolved to send \$10 of the money in the hands of the Treasurer to Mr. Langstroth. A collection was afterwards taken, and \$6.60 additional was raised.

Dr. Gallup was then called upon, and made a few remarks upon his early experiences in bee-keeping in the cold climate of Canada. He did not keep bees at present, but was always interested in them. He said he had gotten himself into trouble by writing for the American Bee Journal, and was flooded with letters asking all sorts of questions about California.

Upon motion of Mr. Brodbeck, it was resolved that the California State Bee-Keepers' Association recognize the Cen-

tral California Bee-Keepers' Association as co-workers with us, and their action in sending such an able representative as Mr. Flory was commended.

The convention then adjourned to meet in Los Angeles at the call of the Executive Committee.

Bloomington, Calif.

J. H. MARTIN, Sec.



### Managing the Hoffman Frames.

BY C. M. RIVERS.

I wonder if Shakespeare had in mind the difficulties of adjusting a Hoffman frame in a crowded hive when he wrote—"If it were done when 'tis done, then 'twere well it were done quickly;" or the bees' chances of life under such circumstances when he makes Hamlet say, "To be or not to be." I hear your answer, "That is the question."

That considerable pulling and prying is necessary in getting the Hoffman frames apart, and that some care and patience is required if we would avoid killing bees in readjusting them, may be admitted for the purpose of this article.

A handy tool as suggested by some bee-keepers for this work, is the pocket-knife. Some say a nail is a fine thing, and may be carried in the pencil-pocket. A screw-driver, and under some circumstances a small crow-bar, have been recommended. Now, without entering into a discussion of the comparative merits of these different implements, there is one by the use of which we may avoid the killing of bees in crowding the frames together, and with much less trouble than smoking them out of the way. I refer to the screw-driver, but any piece of iron not too thick, and of sufficient length, will answer the purpose.

The frame to be adjusted in the hive is so placed that the end-bars of the frames are about  $\frac{1}{4}$  inch apart. The point of the screw-driver is now placed between the end bars near the top, and allowed to pass down between the two below the offset in the frames. When this is properly done, this crowds all bees from between the end-bars. The frame may now be pushed up against the blade of the screw-driver, the screw-driver withdrawn and finally the frames crowded snugly together.

Seattle, Wash.



### Amount of Honey Consumed in Producing a Pound of Bees.

BY S. A. SCHUDDMAGEN.

How much honey is consumed in producing a given number or amount, say one pound, of bees?—Question in the American Bee Journal of Feb. 8, 1894.

This is a very difficult question to answer, as it may vary at different seasons, and is a good deal guess-work, as the amount of honey and pollen consumed to rear one pound of bees will probably never be accurately ascertained. It has been assumed, and stated, that one colony needs 60 pounds of honey in one year for its maintenance; but for this latitude in a good season it is my opinion that this is not half enough.

If we introduce an Italian queen in a black colony, we find that the black bees have entirely disappeared in about two months and one week in the working season; deducting 21 days from the egg to the time until the bee hatches, leaves about 45 days for the life of the bee; but here we must take into account the fact that only a favored few reach that age, as the majority are swept away by the wind and accidents while at work, in or before the prime of their life.

In animal life, especially in mammals, it takes about from 7 to 10 pounds of milk to make one pound gain in weight; as chyle—the food with which the nurse-bees feed the larvæ—is probably richer than milk, containing more albuminoids and nitrogen, it may take less. All insects, in their larval state are voracious eaters, and the larva of the bee will probably consume more than treble its own weight during the seven days it is fed, as much is lost by exhalation, and I believe that the hatched young bee weighs less than the larva when it is capped over, as the fluids in the body of the larva are absorbed and transformed in the tissues of the bee. To this must be added the honey needed by the bees until they are old enough to gather for themselves—about 16 days.

In two experiments with hiving prime swarms on empty combs, in a honey-flow, the gain of storing in the first 5 days until larvæ was fed, against other colonies having brood, and their gain when they had larvæ to feed and themselves, indicates a loss of  $2\frac{1}{2}$  to 3 pounds a day.

So I conclude that every pound of bees, when hatched, have cost the colony and the bee-keeper at least two pounds of honey, and probably 3, until the bees are old enough to gather;

taking into consideration that the average life of the bee is probably not more than 35 days, and the enormous amount of brood (many of mine had 12 to 14 Langstroth frames for 6 weeks), we can see how much honey it takes before we can take any surplus.

If this article leads others who have more time than I had, to investigate, it may throw some light on overstocking. Sabinal, Tex.



## Questions AND Answers.

CONDUCTED BY

DR. C. C. MILLER, MARENGO, ILL.

[Questions may be mailed to the Bee Journal, or to Dr. Miller direct.]

### Keeping Bees in a Garret.

What is the best method to keep bees in a garret? It is above the second story, has three large windows at the west side, and three not quite so large on the east side. Oldenburg is only a little country town, but on account of putting up a new building, I will be compelled to remove the bees (4 colonies) to the garret until next fall, at least; then I will have a fine place for them. How will I manage to return swarms to the hive from which they issue? I do not want to increase, and I cannot prevent swarming, as Mr. Muth does, because I cannot extract, or rather I do not want anything except comb honey. Will they need any different management than if out-of-doors, or in a house-apiary?

Oldenburg, Ind.

B. S.

ANSWER.—I don't think you will need to manage differently in a garret from what you would on the ground, at least in most respects. See to it that the bees cannot get out into the garret, for if they do they do they'll fly to the windows and buzz away on the glass till they die. Let the only passage from the hive be one that opens outside. As to returning swarms, it will be just as easy to return a swarm in the garret as on the ground, except for the extra labor of carrying the swarm up the stairs. Take the swarm in a box, bag or basket, and the bees will stay together while you carry them up-stairs. You may have to return a swarm to the hive several times, but if you persist in returning it until all the young queens but one are killed, you will be master of the situation.

I'll tell you a way that I learned from Doolittle that may suit your case. When the bees swarm, cage the queen and leave her in the hive. In five days cut out all queen-cells, at least all sealed cells. In five days more cut out cells again and free the queen. Then there will be no more swarming. I think it would be a good plan to have an Alley queen-trap at the entrance, for then a swarm would not come out and go off without your knowing anything about it.

### Use Leaves Instead of Chaff.

In the absence of wheat or oat chaff for packing the chaff hive, is there anything that will do equally well? I cannot get either kind of chaff here without a great deal of trouble.

Holyoke, Mass.

J. H. B.

ANSWER.—Gather clean leaves of trees, using them when perfectly dry, and they'll answer a very good purpose.

### Wants Honey and Not Swarms.

I have 10 colonies of bees in Langstroth hives. The past two seasons I have not gotten any honey. The bees seem to be working all the time in the season and swarming. I put the sections on with starters, but can get no honey—what I want is comb honey. Is there any way I can stop their swarming, and have them store a little honey? They are on the summer stands packed in sawdust, and are all alive.

I have two colonies in the cellar in box-hives. What would you do with them? I am located in a valley between two mountains, in what I should think is a good bee-field.

Ticonderoga, N. Y.

J. C.

ANSWER.—So many things are to be taken into consideration that without knowing all the particulars it's hard to know what to advise. If a colony is gathering enough so it swarms,

and the swarms gather enough to winter on, it certainly seems that they are gathering enough to store surplus if they are so minded. One way might be to put back all swarms as fast as they issue, then the stores that would be used to fill up the swarms would at least partly go into the surplus boxes. From the way you speak, it is quite possible that you don't put on supers till the bees begin to think of swarming, then more than one swarm is sent out from each colony, leaving the mother colony too weak to store any surplus, and the swarms have all they can do to fill up for winter.

Suppose you try this plan the coming season: Put on supers a little before the full flow begins; if white clover is your crop, put them on about as soon as white clover begins to bloom. Then when the first swarm comes out hive it on the old stand, putting the mother hive within a foot or two on one side. In about five days move the old hive away entirely, setting it a rod or two from the old stand, and that will greatly strengthen the new swarm, and if the season is good it will be strange if the new swarm will not store some honey for you. You ought to have a good bee-book, such as this journal is now offering. (See page 219.—EDITOR.)

### Sowing Alfalfa Clover Seed.

I have 7 colonies in good condition. They have had two good cleansing flights since December. I pack my bees in straw to winter them. It is so cold here yet that bees have not gathered any pollen yet. I would like to sow some alfalfa this spring. Would it be safe to sow before the frost is out of the ground?

Pioneer, Ohio, March 20.

W. L. R.

ANSWER.—I know of no reason why it may not be sown as early as any of the clovers, but if any one knows to the contrary, let him rise and speak.

### That "Deep" Plan for Wintering.

I suppose I may put in "Questions and Answers" a reply to the question of Mrs. Durbin, on page 179. Why, Mrs. Durbin, are you not satisfied with the reply, or rather the question, of your husband? And yet there's no law against a woman thinking up some improvement, even if she's not a veteran. I'm not at all sure that the plan you mention may not be worth a trial. Years ago it was talked of, and perhaps to some extent practiced—to stand a Langstroth hive on end for wintering—and your plan would be somewhat in the same line. I should prefer to have the four frames in the upper hive filled solid full of honey.

C. C. M.

### When Alsike Clover Blooms.

It was the driest season here last summer we have had for years. I have 31 colonies of bees, and I did not get any honey. I want to know whether Alsike clover blooms in the fall like red clover?

C. W. T.

Williamstown, Ky.

ANSWER.—Almost everything that applies to red clover applies to Alsike. It blossoms the second and third years. Comes in bloom a little ahead of white clover, and if cut or pastured just before coming into bloom it will bloom after white clover.

### What to Do With Weak Colonies in Spring.

I have 21 colonies of bees in the cellar, but some are very weak, and I am afraid queenless, as owing to last year being such a poor year for honey, all the stores my bees had for winter was what I fed them. What I want to know is this: When I take them out this spring, will it do to put a light colony on the top of some other, and let them unite—that is, if it is queenless? Or can you give me some better way of saving these small colonies, so that they will be in condition for the harvest?

L. S.

Aurora, Ill.

ANSWER.—I used to take a great deal of pains to try to nurse up these little weaklings that come out half dead and alive with very few bees in them, and sometimes I'd give them brood from a strong colony to help bring them up. The idea was that if there was one very strong colony and one very weak one, if I let them alone the weak one would die, and then I'd have only one colony, but if I gave the weak one

brood from the strong colony, then both would live and I'd have two colonies. But giving brood from the strong didn't strengthen the weak one as much as it weakened the strong one. Then I tried uniting the weaklings, but somehow four or five of them together seemed in a little while to just as weak as if they had been left separate. So I finally settled down to the very thing you propose, to unite a weakling with a good colony, for the good colony would thus gain a little in strength, and even if it didn't no harm would be done, for the weakling was good for nothing any way. When they first begin to fly they'll unite without any difficulty.

#### Origin and Use of Royal Jelly.

What is royal jelly made of? Is it made by the bees or man? If by man, how would I begin to secure it, as I want to rear some queens. I read that a certain man had his bees to construct a number of queen-cells in the dead of winter—not for queens, but for the sake of the royal jelly. I want some information about this, as I would like to know how it is produced.

J. M. J.

Pike, Tex.

ANSWER.—Royal jelly is honey and pollen digested by the nurse-bees and fed to the larvæ intended to be queens. It is supposed to be the same as is fed to all larvæ during the first three days of their existence. It probably cannot be manufactured by man, but you can get it in queen-cells by making bees queenless. When bees prepare for swarming, they rear a number of young queens, each one being lavishly supplied with royal jelly beyond their ability to consume it.

## The Sunny Southland.

CONDUCTED BY

MRS. JENNIE ATCHLEY, BEEVILLE, TEX.

#### From the North to the South.

Henry Guth, of South Dakota, spent a few days with us lately. He is favorably impressed with Bee county for honey-production.

H. L. Carrington, of Missouri, has landed in Bee county with a carload of bees, and is well pleased with his move.

M. Ramsay, of Ontario, Canada, recently made us a visit. He has 100 colonies in a cellar at home, and thinks of moving here, as he also is favorably impressed with this country.

Mr. and Mrs. T. J. Adams, of Nebraska, have landed with their bees and effects, and are now locating their apiary west of Beeville. They tried Brazoria county one or two years, and found it too wet, and the honey too dark to be profitable there.

There is room for hundreds of bee-keepers in southwest Texas.

JENNIE ATCHLEY.

#### Why Wouldn't the Bees Work in Supers? Etc.

JENNIE ATCHLEY:—Please tell me why my bees would not work in the supers last season. I put two-inch starters in all the sections, but the bees failed to work in them for some cause. When I saw they would not work in the sections, I then filled some of the sections with comb and honey, and some empty comb; they would fill the empty comb, but would not draw out the foundation. I placed the supers on good, strong colonies, mostly young swarms.

I have a good grade of bees, and they work well in hives with frames. I am using the dovetailed 8-frame hive. I have 47 colonies, and I am comparatively a beginner. I lost 3 colonies during the freeze—they froze with plenty of honey in the hives. What time shall I feed to have good strong colonies for the honey-flow? Will granulated sugar be better than honey? My bees have plenty of honey in the hives.

Arlington, Tex.

Z. W. GRAY.

Friend Gray, it will be hard for me to tell why your bees did not store in the sections, but I suspect they were not getting honey sufficient to force them up into the boxes, or else they were not strong enough. Try full-sized sheets in sections next time, and if you can get it place a bait section with honey already in it in the center of each super, and if your bees are gathering much honey, and are strong in bees, I think you

will find that they will store in the sections with foundation. The combs and honey you gave them served as baits, is why they went to work in the boxes filled with comb.

You are not alone in losing bees by that unusual freeze, as thousands of colonies froze to death.

I would feed through May at your place, to get good, strong colonies for the June flow. If I knew which way you live from Arlington, I could better answer you, as I am well acquainted with all your county, having lived at Arlington 15 years ago. If you live out on the black land toward Grand Prairie, get your bees good and strong for horse-mint in June. If you live towards the river, or near Mr. Swan's place, you will get some honey earlier than June, if it is not too dry. If you are out towards Mountain Creek, you will get a crop in June and July. If you are towards the Arkansas lane, or Johnson Station, don't fail to get your bees ready for the June flow. If you live in Arlington, or towards Handley, you will get some raton and grapevine honey in May. If I were you I would watch my honey-resources closely, and always feed up in time to have the bees good and strong by at least a week ahead of your harvest, and you will catch a crop.

Any further information that I am able to give, I will gladly do so through the American Bee Journal.

#### A Case of Little Wild Bees.

I enclose four little bees or insects that I very much fear are a destructive enemy to our bees. Soon after the late freeze I noticed a great many dead bees in front of a hive, and I cleared them away as is my custom. In a few days, while passing the same hive, I noticed a great many bees crawling around the front of the hive with the abdomens distended, or very much swollen, and shaking their wings very similar to your description of bee-paralysis. I find these little insects in the hives and boring into the middle of the combs, and a good many in front of the hives among the dead bees. Can it be possible that this insect is the cause of the paralysis, and has not been discovered? I am inclined to think this a genuine case of paralysis. Whether the insects have anything to do with it or not I cannot say, though, as I have never seen any of it I have never given any attention to any of those diseases, as I thought Texas was proof against bee-diseases. I feel very much alarmed at this, for it has destroyed a strong colony in a few days. Please advise me at once what to do. I will isolate them from my apiary.

Fairview, Tex.

G. F. DAVIDSON.

Friend D., I sent your letter and insects to Prof. Cook, who reports as follows on them:

The insects sent by Mr. Davidson are small wild bees, of the genus *Angochlora*. They are so crushed that it would be impossible to determine the species. They are a beautiful metallic green, as are all of the genus. They were in the hives as pilferers, after the honey. I presume the bees are suffering from paralysis, and so are weak and just in condition to be victimized by even these tiny wild bees. As weak colonies are likely to be infested by the bee-moth or robbers, so are diseased colonies more likely to be victims of such thieves as the *Andrena*, *Angochlora*, etc.

I have often noticed wild bees robbing from our hive-bees, and have noticed many such cases through the bee-papers. I doubt if such attack ever results in much harm. The robbers are not numerous enough.

A. J. COOK.

Claremont, Calif.

**A B C of Bee-Culture.**—This is the fine cyclopedia of bee-keeping by A. I. Root, containing 400 pages and nearly 200 engravings. The regular price is \$1.25, postpaid, but until April 20 we make the following very liberal clubbing offers on this book: The American Bee Journal one year and the "A B C" bound in cloth—both for only \$1.80; or the parchment cover (very heavy paper) "A B C" and the American Bee Journal one year—both together only \$1.50. Remember, April 20 is the limit on these offers. Better order at once if you want a copy of this excellent bee-book.

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# The American Bee Journal

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MRS. JENNIE ATCHLEY	"THE SUNNY SOUTHLAND."
"GLENER"	"AMONG THE BEE-PAPERS."
"BEE-MASTER"	"CANADIAN BEEDOM."
DR. F. L. PEIRO	"DOCTOR'S HINTS."
REV. EMERSON T. ABBOTT	"NOTES AND COMMENTS."

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## Editorial Budget.

**California Bee-Keepers**, as well as all others, will be interested in reading the report of the last California State convention, published this week. Pres. Cook's address is specially good.

**Mr. Alfred H. Newman**, formerly of the firm of Thomas G. Newman & Son, who published the American Bee Journal, spent an hour in this office on Tuesday of last week. Mr. Newman is now the manager of the Cedar Rapids Candy Company, of Iowa—a successful as well as sweet concern.

**Dr. Adolphus de Planta**, an eminent European scientist, died recently in Switzerland, at the age of 75 years. The British Bee Journal, in speaking of him, says: "There is hardly another man who has given so much time to scientific investigations for the benefit of bee-keepers as Dr. de Planta." His death is a great loss to the bee-keeping world. Shortly, the American Bee Journal expects to give a portrait and sketch of this famous bee-investigator, with something about his work.

**Mr. M. M. Baldridge**, of St. Charles, Ill., gave the Bee Journal office a pleasant call last week. He is preparing a complete and accurate history of the importation of Italian bees into the United States, which will appear in a series of four articles in these columns soon. They will be interesting, I can assure you.

Mr. M. has issued two "Special Bulletins" on "White Melilot Clover," which every bee-keeper and farmer should read. He will mail the two for four cents in stamps.

**That Chicago Convention.**—Regarding the forming of another Northwestern, Dr. Miller has this to say:

As you want opinions about having a convention at Chicago, Mr. Editor, I'll give mine. Generally a good convention can be held at Chicago, and yet I doubt if two could be successfully held there each year, no matter what might be the name. Better have one good one than two not quite so good.

As to name, it hardly seems to me that ought to cut any figure. If it goes under the name of "Illinois State," I think

that would be a help to the State society, and the same persons meeting there would have the same convention as if it were called "Northwestern." Would a Wisconsin man object to coming to it with a different name? After you get expressions from others, if it's found that there is any feeling about the name, and if bee-keepers from other States would come to a Northwestern convention that would not come to a State convention, then by all means let the Northwestern be revived.

In any case, the one important thing to look out for is to have the meeting at a time when low railroad rates will be sure beyond the shadow of a doubt. Perhaps the time of the Fat Stock Show will be the best time.

I'm glad you called for expressions, and hope the brethren will not be "backward about coming forward."

C. C. MILLER.

What about the "sister-en" "coming forward?" But probably Dr. M. agrees with the minister who thought it quite proper that "the brethren" should embrace the sisters!

**Prompt Renewing** of subscriptions to any journal is a habit worth cultivating—a good thing for the subscribers and also for the periodical. Here's what Mr. Edward W. Bok—the able editor of the popular Ladies' Home Journal—has to say about this matter:

"A magazine's success is aided or retarded just in proportion to the promptness employed by its readers in renewing their subscriptions. Delayed renewals cripple the best efforts of any magazine."

The same thing applies to the American Bee Journal. Just memorize Mr. Bok's truthful sentences, and then vow that your lack of promptness in renewing will never hinder the success of any newspaper or magazine you have subscribed for.

Mr. J. A. Golden.

The biographical sketch of Mr. J. A. Golden (portrait on first page) which follows, is taken from Wilson's Photographic Magazine, of New York, for 1894:

An interesting example of a class of photographers fast disappearing is shown in a few notes concerning a veteran portrait worker—Mr. J. A. Golden, of Reinersville, Ohio, which have come into our hands. In 1863, Mr. Golden, then engaged in the business of harness-making, first experienced the delights of photography, by sitting for an ambrotype portrait, patronizing an itinerant photographer for that purpose. The ambrotypist (evidently less jealously secretive than many of his craft) invited his sitter into the dark room to witness the development of the picture. The wonderful and fascinating operation so impressed Mr. Golden (whose leisure hours had for years been spent in picture-making by various means and ways), that he decided at once to adopt photography as a business.

A course of instructions from the ambrotypist was arranged, and on the following day he entered upon his brief apprenticeship. The second day's training found the aspiring pupil so far advanced that his work outshone that of his instructor, and at the end of the third days' work he bought the ambrotypist's studio-on-wheels outfit and business goodwill, thereby commencing his photographic career in earnest. After a year's experience Mr. Golden sold his business and began to travel as an operator, in which work he was more than ordinarily successful.

At this early period books and journals on photographic practice were rare indeed, and possessed a value which it is difficult to appreciate in these days of cheap journals. Mr. Golden was an early subscriber to our old Philadelphia Photographic Journal and Mosaics, after their appearance in 1864, and by this means was able to push himself ahead in his work of art.

In 1865 disaster followed him in a photographic partnership entered into for the promotion of the business, thus realizing by a sad experience the fallibility of our fellowmen in the business matters of life. Having a spirit not to be downed, Mr. Golden took to the road for some years. In 1870 he settled in the beautiful village of Reinersville, Ohio, and combined photographing and the sale of harness and saddles as a business till 1887, when the harness business was dropped and he took up bee-keeping with photography, which he is following to-day as actively as when he first entered it,

almost 40 years ago. "The chief factor in success in portraiture," says Mr. Golden in a recent letter, "is abundant reading and practice combined. The man who will practice and digest what he reads in his journals," further observes this old worker, "can always insure himself comfort and prosperity in his profession, inasmuch as he can avoid failures and loss, and avail himself of the knowledge of other workers to his own profit."

If we had more such philosophers photography would be eased of many of the difficulties which accompany it to-day. Think as you work.

Reverting to his apiarian interest, I may say that Mr. Golden has been a frequent contributor to the columns of the Bee-Keepers' Review in past years, and has recently begun to write for the American Bee Journal. The first article in this number, as the reader has doubtless already noticed, is from Mr. G.'s pen. It is always a pleasure to me to be able to show by picture and sketch the prominent veterans in the active field of apiculture.

## Among the Bee-Papers

Conducted by "GLENER."

### PACKAGES FOR EXTRACTED HONEY.

R. C. Aikin, in Gleanings, thinks instead of 60 pounds, the square tin cans should hold 50, two 50's in a case being heavy enough to handle, and the round 50 being oftener ordered. He likes cans better than barrels. Although costing a little more, they are much more convenient when honey candies. He puts in a tank six cans covered with water over a slow fire for 24 or 48 hours, and does not even take off the screw-caps. Thinks the consumer should get it in the original package, which *must* be cheap, perhaps something like an oyster can.

### WHEN TO EXTRACT HONEY.

The Dadants leave honey on the hives to ripen till the season is over, but E. France says in Gleanings that this will not work with him. He extracts just as the bees begin on the white honey, so as to get out all the old dark honey, then a second extracting will be tinged still with dark and must not be mixed with the best; and then in a good season he extracts three times more to get his pure white crop, leaving enough basswood honey for the bees to winter on.

### CLEATED SEPARATORS.

B. Taylor uses separators of  $\frac{3}{8}$  inch stuff, and instead of being in one piece the separator is in two parts scant  $\frac{3}{8}$  inch apart, thus leaving at the middle a free passage from one section to another. The two parts are fastened together by cleats of  $\frac{3}{8}$  inch stuff at the points where the wood of the section touches the separator. This leaves the surfaces of the sections  $\frac{3}{8}$  inch apart when shipped, instead of the usual  $\frac{1}{2}$  inch.—Gleanings.

### QUILTS AND BEE-ESCAPES.

At the California State convention, says Rambler in Gleanings, quilts had been discarded by 10 of the 19 who had used them. The bee-escape was considered not so much of a success here in clearing an extracting-super as it might be. The escape clears the super of bees; but the honey, deprived of its warming factor, gets cold during the night, and is extremely hard to extract.

### SELLING GOOD HONEY.

C. Davenport tried to sell a merchant honey, asking 17 cents. Merchant said he could buy all he wanted for a shilling. D. asked merchant what he paid for butter. 10 to 20 cents according to quality. As much difference in honey as butter, says D. Then he left a case of 24 sections on trial—no like, no cost. Result, merchant gets regularly three cases a year for his own family.—Gleanings.

### IS BEE-KEEPING BECOMING A SIDE ISSUE?

Editor Hutchinson read an essay at the Toronto convention rather taking the ground that hereafter no one could afford to devote his whole time to bees, and E. T. Flanagan takes issue with him in Progressive. Mr. Flanagan thinks that such a view can only come from a partial knowledge of the field. "This is a large country of ours, and no one man is fully acquainted with its resources for producing honey. There

are millions of acres yet of unreclaimed land, and abounding, too, in honey-producing plants. . . . These all will in due time be occupied by the specialist." He also refers to changes going on that may again make the cultivated regions a paradise for the bee.

### THE GIANT BEE OF INDIA.

The foot-note of the editor on page 169 is timely. It is not always safe to say what is impossible, but there certainly are things in the statements made by Mr. Holt that look very improbable. After we have been led to believe that the domestication and importation of *apis dorsata* was an impossibility, we are quietly told that it has already been in this country some four years. How has the thing been kept quiet all this time?

If the statements made are true, \$3 to \$8 is a very low price for a queen, but what is the difference between the queens of the different prices?

That a cross will gather more than twice the amount of either parent kind is remarkable. That the workers live three times as long as common is new. That a drone put in a cage with a queen will fertilize her at once, and will "fertilize as many as four queens before he stops" is—well, what do you think it is? The question arises, after the drone has fertilized four queens and stops, how long will he stop before he is ready for another four? And what is the price of such drones? One of them might be caged and passed around among bee-keepers at so much per day.

On the whole, it may be charitable to suppose that there is a young man down in Kentucky whose mind is somewhat unbalanced.

### THE AGE OF COMBS.

How much things go by fashion. It really seems that fashion has something to do with the length of time combs are considered good. If my memory serves me, it is the fashion in England to think it is better to reject brood-combs four or five years old, whereas the answers on page 176 of this journal show that the fashionable thing on this side is to consider age never a detriment. Possibly the truth lies between the extremes.

## Canadian Beedom.

Conducted by "BEE-MASTER."

### The Swarming of Bees.

We have all styles of bee-keeping here in Canada. There are some localities where the old-fashioned straw-skeps are used almost exclusively; in others, box-hives are the prevailing ones. In some sections of the country there are none but movable-frame hives kept, and these are of all sorts and sizes. Traces of the old superstitions may be found here and there. I once met with a quaint old lady who told me that they formerly kept bees, but a member of the family died, and they neglected to inform the bees. The consequence was that all the bees died also, very soon afterwards.

In those localities where the old style of bee-keeping in straw and box hives prevails, natural swarming is the only kind known. When a swarm issues, the primitive custom of rattling all the tin pans, pots and kettles is usually observed, and there is great faith in the efficacy of noise and clatter in causing the bees to settle. By the way, so high a scientific authority in bee-keeping as the late Mr. Frank Cheshire, thinks this is not wholly a superstition. In Vol. I. of his great work on "Bees and Bee-Keeping," page 127, he says: "I believe that the old idea, now almost universally discredited, that these noises disposed the bees to settle, is accurate." He adduces two or three arguments to support his view, among the rest that bees choose quiet times—notably Sundays—for their departure, which reminds me of an old Presbyterian minister, one of the class who believe in keeping the "Sabbath, and every thing else they can lay their hands on," who used to be a great bee-keeper, but finally abandoned the pursuit, because the pagan insects had such a fashion of swarming on Sundays, and he doubted the propriety of hiving them on that sacred day.

Of course our best bee-keepers know all about artificial swarming, or dividing, but I do not think many of them practice it except as an occasional thing and for some special purpose.

There is not much faith here in any self-hiving device, although one of our supply firms advertises a self-hiver, and

speaks of it as though it were a success. I spent \$5.00 on Alley's first self-hiving arrangement, but could not make it work, and as "a burnt child dreads the fire," I am loth to invest any more money in that direction, until there is better evidence that automatic swarming is practicable than I have yet met with.

While I believe bees work with a zest after naturally swarming, which they do not evince in connection with any method of artificial swarming, and I enjoy the contemplation of their ardor and interest in founding a new home, I have settled down on artificial swarming as the best for me in my circumstances. I cannot be always with my bees, neither can I keep them closely watched, and I prefer to take the slight disadvantage there is about artificial swarming to the dire affliction of occasionally having a rousing swarm go off with my best queen.

I read with much interest Mr. Doolittle's article in the American Bee Journal of March 7, 1895, on "How to increase bees when natural swarming is not wanted." The two methods described are perhaps the nearest approximations to natural swarming that can be attained by any artificial plan, but it seems to me there are too many manipulations to be performed and they take too much time. On the first of the plans given, I should be afraid the bees might go back to the old hive either by twos and threes, or *en masse*; and on the second plan, I should hate to immure them for four hours in a box with wire sides, checking all active operations and throwing them into a state of bewilderment. On the method I employ, the work is quickly done, and the bees will be busily engaged in making the best of their changed circumstances long before Mr. Doolittle has his imprisoned bees liberated from confinement. Bees are quick at accepting a new state of things, and soon adapt themselves even to an untoward condition.

My method, which I call mine not because it is original with me but simply because I practice it, may not be the best, but it suits me, and works well enough for all practical purposes. I wait until the bees give evidence that they are making preparations to swarm naturally. Some of our bee-keepers have been using a phrase lately which has a very scientific smack—"outside diagnosis." It means the same as what the old darkey called, "habits o' bobobservation." Any bee-keeper worthy the name, spends lots of time in watching the bees as they go in and out of the hive, linger at the precincts, or cluster near the entrance.

Some fine day I say to myself, "That colony has a notion of swarming." Then I anticipate them. I take a clean, empty hive having frames with starters, or full sheets of foundation in them. I haven't made up my mind which is the better plan, though I incline to full sheets because I want worker-comb, and I think the bees, like a newly-married couple, prefer a furnished residence to an empty house.

I set the new hive beside the old one, take out one of the middle frames, then open the old hive, find the frame on which the queen is laying, lift it with the adhering bees out of the full colony, and put it in the new hive in place of the removed one. Then I move a full frame of the old hive to the center, close up the ranks, and put the spare frame of foundation on the outside. Then I move the old hive to a new place, and set the new hive on the old stand. This gives the bulk of the working force to the new hive, which has a full frame of brood and the old queen. The working force soon falls in with the new arrangement, and makes itself as busy as possible. In a few days, the old hive becomes strong with bees, it is not long until it has a laying queen again, and all is lovely with both hives.

The beauty of this plan is that there is no absconding, for the swarm will not leave a frame of young brood, and the other colony is not likely to be populous enough to want to swarm during the remainder of the season. I do not urge every one to adopt this plan—all I say is that it suits me, and in bee-keeping as in some other things, every man should be a law unto himself.

## Notes AND Comments.

CONDUCTED BY

Rev. Emerson T. Abbott, St. Joseph, Mo.

**Feeding Back.**—"During one year that I kept track of everything, I made \$5.00 per colony during the month of August for each colony fed. That year I fed extracted honey to 9 colonies to finish sections, and I spent only about 15

minutes per day feeding. Results, \$45.00 for the month of August. This is nearly \$2.00 per day. Doesn't that pay?"—F. A. Salisbury, in Gleanings.

One is led to wonder why such men as R. L. Taylor and Mr. Salisbury do not devote their entire time to feeding back, or at least all the time the bees are not actively engaged in honey-gathering from the flowers. If one can make \$5.00 per colony for each colony fed one month, surely it would pay to keep a few hundred colonies busy about three months in the year. This will beat bee-keeping in the ordinary way two to one. But for some reason I am led to feel that there must be a mistake some place. I am sure of one thing at least—many plans that seem to work successfully with a few colonies will prove to be a failure when applied to a large number of colonies. I am also convinced that the average bee-keeper will make a failure of feeding back, and the less he has to do with it the better off he will be. Of course, this is only "my notion," but then I look upon myself as being possessed of average intelligence and ability, and I frankly confess that I have never been able to make any kind of feeding back pay. So my advice is, if you feel you must try the experiment for yourself, do not go in too heavy at the start.

**Dampness Injures Flowers.**—"Cold, rainy weather is detrimental, chilling the flowers and causing the pollen to fall."—Report of the Secretary of Agriculture for 1893.

Here is a point out of which bee-keepers should not fail to make the most they can. We have been insisting that it is not necessary to spray any kind of fruit when in bloom, and now comes the Government Experimenter and says that it is an injury to the fruit to spray when the plant is in bloom. He says, in an experiment made with a Mount Vernon pear tree at Geneva, N. Y., that the tree was "sprayed continuously for eight days, the entire time of blooming, and not only was no fruit set, but the foliage was rendered sickly and the tree's condition greatly impaired." If we can make the fruit-growers understand that there is not only danger of killing the bees, but that spraying when the plant or tree is in bloom may destroy the fruit as well, then we may rest assured that we will have no more trouble in this direction. We may not be able to move the horticulturist by showing him our danger of loss; but if we can convince him that he will lose, too, then we appeal to his selfishness as well as his love of humanity. As we are all a little inclined to be selfish, it will be well to give the above facts as wide circulation as possible.

**Nor Any Other Time.**—"Open air feeding should not be started too early in the spring, and only when the weather is warm. The food should also be very much thinner than ordinary bee-syrup."—Editorial in British Bee Journal.

It seems strange to me to have an editor of a bee-paper explain how or when to feed in the open air. If bees must be fed syrup of any kind, why not feed it from the top of the hives? Then you will know exactly what bees you are feeding and how much you have fed them. If fed in the open air, it seems to me that many colonies which did not need feeding would carry away as much as those that did need it. Then, it seems to me that I would not want such a commotion as open air feeding is sure to create, if there is no nectar being gathered from the flowers, and has not been for some time. My advice would be not to feed in the open air at any time. If colonies must be fed in the spring, the sooner one can get through with it the better. Bees wear out mostly, and they will wear just as fast when carrying in sugar syrup as they will when gathering nectar. "A hint to the wise is sufficient." Do not feed too much.

**Are They?**—"I concluded the theory of drone-eggs not being influenced by the impregnation of the queen was all bosh."—W. C. Wells, in Canadian Bee Journal.

Is there any foundation for the above statement? Does the sperm fluid from a black drone in any way affect the male progeny of an Italian queen? Or, if a black queen be mated with an Italian drone, will any of her male progeny show any traces of Italian blood? Might it not be well to do some careful experimenting along this line? While the experimenting is going on will some one please rise and explain why it is that the cell furnished by the female bee always produces a male when it is not united with a male cell? Does the mother always furnish the male element of an animal which is the product of the union of two cells?



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CHICAGO, ILL., Mar. 7.—During the past two weeks a good movement has been felt in the market. Sales have been in small lots, but quite frequent. We quote: White comb of the highest grade, 14c.; off in color, 13@13½c.; yellow, 10@11c.; dark, 7@9c. Extracted, 5¼@7c.—the higher price for white in 60-lb. cans.

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KANSAS CITY, MO., Mar. 14.—Demand is fair for comb and extracted. We quote: No. 1 white, 1-lbs., 14@15c.; No. 2 white, 12@13c.; No. 1 amber, 11@12c.; No. 2 amber, 10@11c. Extracted, 4¼@6½c. Beeswax, 22@25c. C. C. C. & Co.

CINCINNATI, O., Mar. 19.—Demand is slow for extracted and comb honey, with a fair supply. We quote: Comb honey, 13@16c. for best white. Extracted, 4@7c. Beeswax is in good demand at 25@28c. for good to choice yellow. C. F. M. & S.

PHILADELPHIA, PA., Feb. 15.—Comb honey is very plenty and slow of sale at 12@13c. Extracted in fair demand at 5@6½c. Beeswax scarce at 30@31c. W. A. S.

NEW YORK, N. Y., Feb. 20.—We are gradually working down our stock of comb honey, and the indications are that we will succeed in disposing of all of the white honey and possibly all of the dark during the spring, at following quotations: Fancy white, 1-lbs., 12c.; fair, 10c.; buckwheat, 8@9c. The market is well supplied with extracted honey. Demand is fair for choice grades, while common stock is neglected. We quote: White clover and basswood, 5¼@6c.; buckwheat, 5@5½c.; Southern, 45@55c. per gallon, according to quality. Beeswax firm and in good demand at 30@31c. H. B. & S.

BUFFALO, N. Y., Mar. 16.—The honey market is getting quite well cleaned up here. We quote: Fancy, 13@14c.; choice, 11@12c.; buckwheat and commoner grades, 7@8c. Extracted is in very light demand here, and we would not advise shipments. B. & Co.

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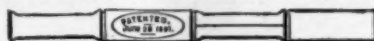
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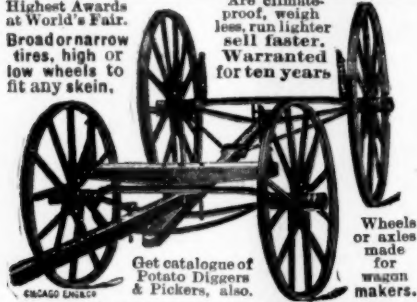
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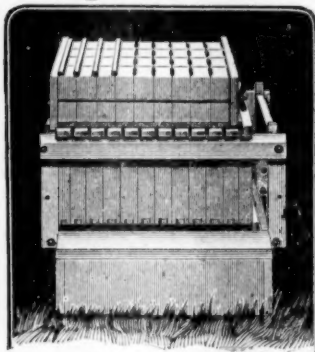
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**General Items.****Gathering Pollen and Rearing Brood.**

Bees have been flying every few days all winter, and on Feb. 21 they brought in their first pollen; willows are beginning to bloom nicely. I opened a hive of black bees to-day, which I bought of a neighbor last fall, and found two full frames of drone-comb, and one of them full of eggs; as I do not have any use for black drones, I promptly replaced those combs with frames of worker-comb that I had stored away, and laid those drone-eggs away to dry. Every colony has from one to three frames of sealed brood, and the bees are bringing in immense quantities of pollen from the willows, and a very little honey. Prospects are good for 1895. Just now I am at White River Valley, 12 miles from Seattle.  
Orillia, Wash., Feb. 27. A. W. STEERS.

**Seem to be Wintering Well.**

My bees are in the cellar yet, and seem to be wintering well so far.

JOHN WAGNER.

Buena Vista, Ill., March 25.

**Bees All Alive and Buzzing.**

We have just come through the severest spell of weather that has occurred here since I have resided in this region, now 12 years. For six successive nights the temperature ranged from zero to 18 degrees below, which, for this locality, is very unusual and extreme. For a few days we have had mild weather so the bees have been flying.

I find every colony in my yard is alive, and apparently ready for business. They are exceedingly eager for any kind of substitute for pollen. The most of my hives had about four thicknesses of burlap put across the top under the cover and down on the outside; a few, however, were without any kind of protection except the covers sealed down by the bees. I have not noticed any apparent difference in the strength and activity of the two divisions. At the time of the coldest weather there was about three inches of light snow on the tops and in front of the hives, thus serving as a very excellent protection.

I had a great desire to attend the convention of the Colorado State Bee-Keepers' Association, but it was my misfortune to be sick at the time. I came to this place a physical wreck, but for several years I enjoyed fair health, when the gripe gave me three annual visits, since which my health is poor during the winter. I think I am in one of the very best localities for bees in all the alfalfa region of the West, and am very loth to leave it. But I fear I shall have to try a change to another climate. This seems the more necessary as the health of my wife seems to demand a change to a lower altitude and a warmer climate.

L. J. TEMPLIN.

Canon City, Colo., Feb. 26.

**Literature of '61 and '95 Compared.**

Say, "Bee-Master," what's the matter with you? To be sure, that first volume of the American Bee Journal is filled with "solid, useful contents." The bee-keeper who has never read it better get it right away. But remember that volume had virgin soil filled with basic facts, and that alone would make it of value, no matter how the facts were dished up. Give 1895 the same chance, and it would lay 1861 in the shade. In typographical appearance 1861 is nowhere beside 1895, nor in general snap and git-up. If Bee-Master will wipe out of that first volume all that is quoted or translated from across the sea, he may be surprised to find how little he will have left. I turned at random to one of the middle numbers in the year, and found more than twice as much foreign matter

as original. In general, the foreign matter was good, and it was that which gave value to the whole volume, for in my judgment the original matter was not to be compared with that which we are getting in 1895. Seven pages are taken up with discussing the theory of J. Kirby, which is as follows, on page 152: "The workers in their flight with the drones alight on the drones' backs and cause them to give off their semen, which the workers lick up and carry to their appropriate cells in their hives, for the purpose of propagating the young queens." To be sure, that isn't a fair specimen of the original contents, but think of filling up seven pages with such stuff! Would it be endured in 1895?

While it may not be best to brag unduly of the wonderful excellence of the apicultural literature of to-day, the excellence is none the less there, and when some one says it's badly deteriorated, can you blame Editor Hutchinson for speaking the plain truth?  
C. C. MILLER.

Marengo, Ill.

[On this same subject comes the following, which will close the discussion of improved and unimproved bee-literature in these columns, as there is no cause for complaint in regard to the matter, for the bee-literature of to-day is so much in advance of the price asked for it, that no one but a Whatyoumaycallhim would say aught against it:—THE EDITOR.]

MR. EDITOR:—On page 189, Bee-Master says bee-literature was better in 1861 than at the present day. Now it is a pity that Bee-Master didn't live and "shoot off" his pen then. If he isn't satisfied with bee-literature the way it is now, why doesn't he make it better? He takes up a whole column every week, and I don't see that his mite is any better than nine-tenths of the articles published. For my part, I am satisfied with the leading journals the way they are to-day.  
JOHN M. RANKIN.

St. Clair, Mich.

**Bees Had a Good Flight.**

Bees had a good flight Feb. 28, in the afternoon, but it is too cold for them to get out much, only when the sun shines out brightly, as the air is cool in the shade.

C. A. HUFF.

Clayton, Mich., March 23.

**Wintering—Best Bees—Paralysis.**

This has been a hard winter on bees on the summer stands, I think. I packed 54 colonies on the summer stands, about one-third of them being weak in bees, but with plenty of honey. Now the question is, What caused those colonies to be so reduced in number, some of them covering only four or five combs when packed for winter? They were strong when basswood bloomed, and I kept them down to 54 from 49, spring count. Did they work themselves to death?

Our season was very dry, especially through the fall bloom. Buckwheat was a failure, but golden-rod yielded quite good. The bees worked hard, and gave me over 3,000 pounds of honey, besides 30 to 35 pounds each for winter. Perhaps there being insufficient water near them, caused them to rear brood insufficiently.

So far I have lost 5 colonies, with as many more that are as good as gone. I think now that I will save about 40 colonies.

I have been very much interested in the discussion as to which is the best bee. I wish I knew. From my experience in the last 14 years with both blacks and Italians, I should say blacks. I find bees from an Italian queen mated with a black drone are excellent workers, but I believe some of my largest yields have come from black bees. I find the blacks winter better on the summer stands than Italians. I am satisfied that locality has a great deal to do with it.

I believe that what bee might be best for

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this locality might not be the best for Texas or California. Basswood and clover are our main sources for surplus, and I find the blacks always have their share from these sources. "Bands" are no object with me, as I keep bees for the money there is in it first, and bands second. I shall continue to experiment with the different races, as I want the best bee if I can get it.

I have had some experience with bee-paralysis in my apiary. I have had two of my best colonies ruined with it. It seemed to be worse then than now. Two years ago I had two colonies badly affected with it. I made rather a weak brine of salt and water, and opened the hives and sprinkled bees, brood and all, until all was real wet, and the disease disappeared; but I think perhaps it might have disappeared any way, the same as it did from Dr. Miller's bees when he painted his granary red!

B. W. PECK.

Richmond Centre, Ohio, March 9.

### A Good Beginning.

I have just started in the business, and I wish to make it a success. Last year I extracted nine gallons of honey from a 4-frame nucleus that I paid \$1.25 for. How is that for this part of the country, and a beginner?

A. M. BARFIELD.

Stone Point, Tex., March 9.

### An Experience With Bees.

The spring of 1895 finds my bees in fine condition—better than I ever have had them for this time of the year. I have 8 colonies in good condition, having gone into winter with 12 colonies. Three of them that died had the foamy kind of honey which was described on page 38, and the other one starved. Last spring I had 4 colonies, and I bought 7 more in gums, and transferred them into the movable-frame hives. I had two swarms, and saved one, the other going to the woods. I paid \$1.25 apiece for those I bought, and from them I got 350 pounds of comb honey, which I sold to my neighbors for \$35. Now this is no great amount of money, but I can afford it as I make my living on the farm, and can attend to my bees at odd times, in the spring. When they swarm my wife attends to the hiving until she gets hold of some bad ones, then she toots the horn for me.

On Sept. 1, 1894, I received two 5-banded Italian queens. Theirs are the best and prettiest bees I ever saw. One of the colonies I can manipulate without smoke, while with the other I need smoker, a pitch-fork, and a butcher-knife. Both are 5-banded. Can any one tell me what makes the difference? I never saw any Italian bees before. After further trial I will report as to the success I have with them.

J. M. JEFFCOAT.

Pike, Tex., March 8.

### Cellar Wintering—Marketing Honey.

I have wintered my bees very successfully for a number of winters in the cellar under my house, where I keep vegetables, but the two winters before the last they were left on the summer stands, and each winter I lost exactly half the colonies I had. Last winter I put 26 colonies into the cellar, and took out 26 all in good condition, I thought, but they commenced robbing, and before I could get them stopped they had cleaned out 7, leaving 19. I had no swarms, but captured an absconding swarm and put it into a hive with full combs and some honey. From these 20 I took 48 pounds of comb honey and 984 pounds of extracted. All is sold to old customers—the extracted at 10 cents per pound, and the comb at 12½ cents. It was not a large yield, but fairly good for such an extremely dry season. The quality of the honey was never better.

When I commenced the business, some 12 years ago, I could hardly sell extracted honey, but I never sell a package of honey without a label on it, giving my name and address, and guaranteeing it pure honey,

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A136 Mention the American Bee Journal.

and now a large majority of my customers would rather have the extracted, and are not afraid of it when it becomes granulated. I put the price on my honey, and if a customer does not want to give it he can let it alone, as extracted honey will keep, and if not sold this year it will sell next, with a little trouble to liquify it.

There is great injury done to the price and sale of honey by producers rushing their honey to the towns and taking whatever the merchant will give for it, often selling at ruinous prices, and that often fixes the price for that season.

I want to say to those who have been writing to me about the matrimony-vine, that I have none of my own—none grows on my land. It will not do to send it by mail, but it might be sent by express. No, I don't want to employ an agent. I wish to say to A. D. Sellers, of Springfield, Mo., if this should meet his eye, that I answered his letter as directed, I think according to his directions, but in due time it came back to me, and I don't know where to send it.

A. J. DUNCAN.

Hartford, Iowa, Feb. 18.

#### Bees in Pierce Co., Wash.

Can any of the readers of the American Bee Journal tell how bees do in Pierce county, Washington? J. R. K.

#### More than Enough Rain.

We have now had 24 inches of rain—7 more than enough. My bees are in fine condition. I have a student in bee-keeping from Holland. A. J. COOK.  
Claremont, Calif., March 18.

#### Appear in Prime Condition.

I now have 10 colonies of bees, and they appear to be in prime condition, while most of my brother bee-keepers have lost heavily. DAVID H. WRIGHT.

Madison, Wis., March 16.

#### Bee-Keeping in Mississippi.

I have just returned from my hunting and trapping tour, having been away nearly all winter in the wilds of Arkansas. I have been looking over my five apiaries, and don't think I ever saw the bees wintering any better, although we have had one of the coldest winters ever known here. Snow has laid on the ground for 23 days, with ice to the thickness of 4 inches. The prospects are for a good honey year, as all early-flowering trees have been kept back.

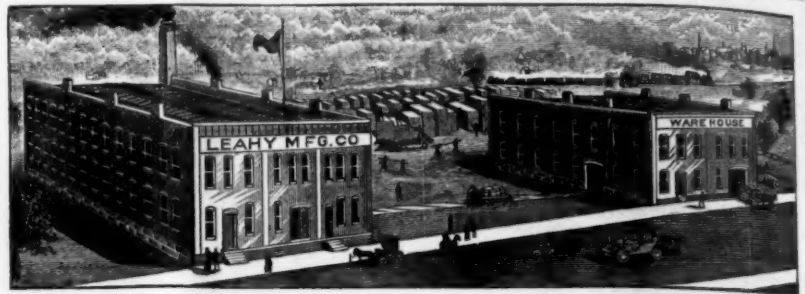
I have been like Dr. Miller, on the fence. I have been on two fences at a time—one is on the 8 and 10 frame hive; the other is on the best kind of bees for honey-gathering. As I have been experimenting on both, I have tumbled off on the 10-frame side; and the best honey-gatherers are bees from a 5-banded bee crossed with a black drone. This makes the best and hardiest bees, that will gather 20 per cent. more honey than either the 3 or 5 banded or black bees, and I don't find them very hard to handle. But what are we keeping bees for? Is it for pleasure or for profit? If we keep them for fancy, then keep the five-banded; for pleasure, 3 banded; but if for profit, then give me the above cross—5-banded crossed with black drones. J. H. SIPLES.

Gunnison, Miss., March 3.

#### 500 Nuclei Must be Sold This Year!

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2 " " \$1.25; " " 1.50  
3 " " 1.65; " " 2.00  
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## Question-Box.

In the multitude of counsellors there is  
safety.—Prov. 11-14.

### What About Late Breeding of Bees?

**Query 965.**—1. Is late breeding desirable?  
2. In other words, do young bees winter  
better, or worse, than old ones?—Iowa.

**E. France**—I like young bees to win-  
ter.

**B. Taylor**—1. I think so. 2. Better  
with me.

**Jas. A. Stone**—1. Yes, if not too ex-  
tensive. 2. Yes.

**G. M. Doolittle**—I let the bees do as  
they please along this line.

**C. H. Dibbern**—Yes, I think quite  
young bees best for both winter and  
spring.

**Dr. J. P. H. Brown**—I prefer my colonies  
to have plenty of young bees for  
wintering.

**Rev. Emerson T. Abbott**—I do not  
want them too young nor too old, but just  
"mejum," as Samantha would say.

**Prof. A. J. Cook**—1. I think it is. 2.  
I think they do, though usually bees are  
young enough, if properly cared for.

**Dr. C. C. Miller**—I think I'd risk the  
young ones, only I'd want them all  
hatched while bees were flying well.

**Mrs. L. Harrison**—1. I think so; they  
never bred so late in our locality as this  
year (1894). 2. I prefer young ones.

**W. G. Larrabee**—All animals can en-  
dure the cold best in the prime of life,  
and I think bees neither too old nor too  
young are liable to winter best.

**Wm. M. Barnum**—Yes. I would rather  
go into winter quarters with 2,000  
young bees than 4,000 old bees. Let  
them "breed" as long as they will.

**Eugene Secor**—I have always let the  
bees manage that business to suit them-  
selves, and my uniform success in win-  
tering, emphasizes the wisdom of that  
notion.

**Mrs. J. N. Heater**—I would not have  
them so young they could not have one  
or two good flights before cold weather,  
but if left to themselves the bees will  
manage that.

**J. E. Pond**—Yes! I breed them as late  
as possible. 2. Undoubtedly young bees  
winter better than old ones; that is,  
they do better in the spring when a  
large force is needed.

**Jennie Atchley**—As our bees here in  
the South breed almost all the year, I do  
not know. 2. If I lived in a cold climate  
I would prefer young bees, or the late  
fall hatching. But I may be wrong.

**Chas. Dadant & Son**—Young bees are  
needed to fill the place of the old ones  
that die in issuing forth during the cold  
weather. We never check fall breeding;  
let the bees attend to it as they please.

**G. W. Demaree**—I doubt if "late  
breeding is desirable." But bees evi-  
dently winter with less loss if there is a  
fair proportion of young bees in the col-  
ony that have learned to fly out before  
the colony is shut in by severe winter  
weather.

**Rev. M. Mahin**—1. If a colony is  
strong there is nothing to be gained by

late breeding. I once had the queen of  
a strong colony to get hurt early in Au-  
gust, and not another egg was laid in  
the hive that season. I expected that  
the colony would perish, or be very  
weak, but it proved to be one of my best  
the next season.

**J. A. Green**—I know of nothing tend-  
ing to prove that late breeding is not  
desirable, though that might depend up-  
on what was called "late breeding." I  
have never had bees winter better than  
after seasons in which the honey-flow  
lasted until Sept. 20.

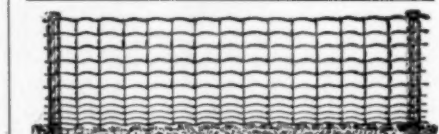
**R. L. Taylor**—1. Yes, unless the col-  
ony is already strong. 2. In my experi-  
ence those colonies that have become  
strong by late brood-rearing have win-  
tered so at least. I can say a strong  
colony of young bees winters better than  
a weak one composed of old bees.

**P. H. Elwood**—Yes, but not too late.  
Nature's way seems best, i. e., brood-  
rearing continues to the end of the  
honey harvest. This preserves the  
proper proportion of young bees for  
spring brood-rearing. 2. Very young  
bees are not needed for winter, but for  
springing.

\*\*\*\*\*  
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and not always take the word of interested  
parties. Very few of them have any idea  
how much the common soft wire will stretch.  
They may have been led to believe it a mere  
trifle. It is an easy matter to prove that a  
No. 9 wire, under a strain of about 1000 lbs.  
will stretch from 1 to 1 1/2 in. per foot and it  
never takes up its own slack. That accounts  
for those little end ratchets filling up so  
quickly. Our local agent will furnish a power-  
ful stretcher for this experiment.

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pine-land, partly cleared, with house and  
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range—for only \$700! Reason, having two  
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Ten Colonies..... 50.00  
1 untested queen. 1.00  
6 " queens 5.50  
12 " " 10.00  
1 tested Queen... \$1.50  
3 " Queens. 4.00  
1 select tested queen 2.00  
3 " Queens 5.00

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